

# Winter Summary 2007: Storms Take a Toll

## Budget Concerns and Deicer Product Shortages

Rising material costs and increased usage of deicers as well as additional labor and equipment necessary to respond to severe winter weather resulted in a stretched winter maintenance budget. WSDOT spent \$35.5 million for winter maintenance during the 2006-2007 season, an increase of about \$5.7 million over the 2005-2006 season.

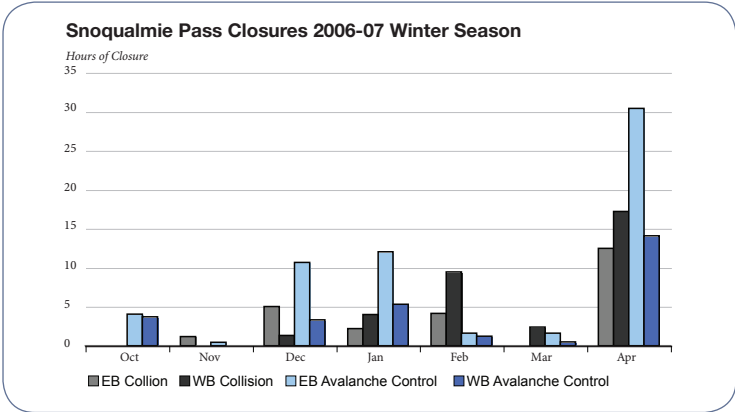
Severe weather nationwide led to deicer material shortages. This severely challenged the ability of WSDOT to provide normal and expected levels of winter maintenance. By coordinating with all regions and maintenance areas, WSDOT was able to apply remaining resources where they were most needed and still maintain a small surplus for imminent needs.

With the experiences of last winter freshly in mind, WSDOT has implemented procedures and added capacity to avoid being victimized by material shortages in the future.

## Closures on Snoqualmie Pass Decrease

Being the primary route for cross-state travel, Snoqualmie pass carries upwards of 30,000 vehicles per day, including significant commercial traffic. The Pass presents WSDOT maintenance personnel with a unique set of challenges. The elevation is high enough to assure significant snowfall accumulations yet low enough to insure that the predominant snow composition is heavy, wet snow.

The I-90/Snoqualmie Pass team, comprised of multiple crews from two regions, met these challenges head on. By the end of winter, 375 inches of snow had fallen at the Pass, yet the Pass was only closed for 75 hours. As you can see in the attached chart, most of these closures were for avalanche control.



## Building Partnerships to Keep Drivers Safe and Moving

The 2006-2007 winter season presented difficulties not only for WSDOT, but for local jurisdictions and private agencies as well. Throughout the winter, WSDOT provided standard snow removal activities for local jurisdictions that either lacked the equipment or personnel. During the severe flooding in November 2006, WSDOT provided sand and sandbags to local communities. WSDOT also worked with counties to open roads that were washed-out by flooding and erosion.

WSDOT also lent assistance to communities after the Hanukkah Eve wind storm last December. The catastrophe: 1.5 million without power – some for more than a week. WSDOT crews cleared debris from roadways, provided traffic control for Puget Sound Energy and other utility crews while Commercial Vehicle Services division worked to make sure out-of-state utility trucks had proper highway usage authorization and equipment.

Building these partnerships with local utilities, cities and counties will only strengthen response to the next event.

## Winter 2007-08 – Looking Ahead

The events of the past winter will help us to improve methods and procedures for this winter and beyond. The activation of emergency operations centers at headquarters and in the regions was instrumental to improving response to weather events. Improved communications between region and headquarters managers helped to provide perspective on the range and scope of various events that were occurring and where additional resources were needed.

Increases in material storage, ongoing training, improvements in equipment and technology and consistently reviewing past response activities are some of the things that WSDOT managers are doing to improve overall performance. We remain committed to providing the best service possible to the citizens of this state.

Floods, Wind, Rain: 2006-2007



## For More Information Contact:

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# Winter Summary: October 2006-April 2007

## Storms Take a Toll

Many of us will remember the winter of 2006-2007 for the frequency and variety of hard-hitting weather events that occurred. Severe weather struck early, hard and often. A snowstorm hit Snoqualmie Pass in late October and was followed by record-setting rain in November and high winds and snow storms in December in Western Washington. WSDOT resources were tested by urban snowfall events in December and January in Puget Sound and Southwest Washington. Milder weather in February and March brought some much-needed relief to weary crews and managers; however budget strains were still being felt throughout the program.

Lessons learned this past winter in central resource management and communications between headquarters and the regions will pay dividends in future response to winter weather events. WSDOT Maintenance is committed to improving procedures and managing resources in ways that will best serve the needs of the citizens of Washington State.



 Winter's end is a welcome relief to wary road crews, but these budget challenges continue winter's hold.



# Winter Summary 2006 - 2007: Storms Take a Toll



The rains of 2006 saturated hillsides and washed out roadways. The roadways in Southwest Washington and near Mount Rainier National Park were hardest hit. Above left, a Southwest Washington highway slides downhill, while in a complete washout near Mount Rainier left park lands isolated.

Snow fall on Puget Sound highways, the Olympic Peninsula and in the mountains had WSDOT shifting its resources to places hardest hit. Getting information out to the public and encouraging drivers to delay trips gave WSDOT anti-icer and plow trucks a chance to clear the roads.



## November 2006: Record-Breaking Rain and Flooding

- November 6, heavy, intense rains creates havoc for drivers
- Four-day rainfall up to 9 inches in Puget Sound Region
- One-day record rainfall at SeaTac Airport (3.29 inches), Olympia (4.31 inches), Forks
- Emergency Operations Center was open for four days, coordinating WSDOT crews and resources
- Widespread flooding involving nearly all western Washington rivers and four rivers east of the Cascades
- More than \$9 million in damage to the state's road systems
- Close to 30 storm-related closures on state highways
- More than 800 WSDOT workers involved in cleanup for weeks
- Southwest Washington hard hit – 11-13 inches in four days. 24 inches at June Lake, 38 inches at Swift Creek, 28 inches at Sheep Canyon and Mt. St. Helens area (15.20 inches)
- At one point, only one route (through SW Washington) was available to take drivers between Western and Eastern Washington, causing slowdown of freight traffic

## Late November 2006: More Puget Sound Snow

- 190 vehicles working in Western Washington
- More than 14 inches of snow in 12 hours in north Olympic Peninsula
- Whatcom and Skagit counties hard hit: white out conditions Lynden to Sumas, zero visibility parts of SR 539, SR 546 and Highway 9
- Close to 10 inches in Skagit County
- Snow and ice Seattle to Lynwoodt

## December 2006: Hanukkah Eve Wind Storm

- Strongest wind storm since Inauguration Day 1993
- Coastal winds reached up to 90 mph, while inland winds reached 70 mph, highest 113 mph at Chinook Pass
- Power out to more than 1.5 million households
- Governor declared Emergency for all 39 Counties
- WSDOT closed portions of state routes in 90 locations and most major bridges in Puget Sound
- WSDOT crews work with utilities to get services restored



The dangerous combination of saturated soils, high wind and more rain toppled trees, power line and left citizens in the dark. WSDOT crews out working through the storm couldn't escape its wrath and one worker was lucky to escape his truck as trees fell all around-see photo above.

OCTOBER 2006

OCT 30

NOV 6-8  
Flooding

NOV 27

NOV 29-30

DEC 14-15  
Wind Storm

JAN 9-11  
Snow Storm

FEB 28  
I-90 Mountain  
Snow

APRIL 2007

## October 2006: Early Snoqualmie Snow

- Sunday afternoon unexpected squalls of strong winds, heavy snow and hail
- WSDOT/WSP closed Snoqualmie Pass for three hours
- 5-1-1 system down during closure

## November 2006: Monday Night Football Snow Storm

- Heavy snow and freezing temperatures hit Puget Sound at worst possible time
- Crews were fighting snow during rush hour traffic
- After game, 50,000 more cars overwhelmed freeway system
- Drivers spent a cold night in their cars
- Lessons learned and changes made

## January 2007: Urban Snowfall

- January 9-11 severe lowland snow, ice and cold temperatures
- Winter hit Vancouver area hard Jan. 15
- WSDOT had 227 trucks on the road, with some arriving in Puget Sound from as far away as Wenatchee
- Used more than 388,000 gallons of liquid deicer
- 613 dump-truck loads of solid deicer applied

## February 2007: Snoqualmie Squall

- Feb. 28 fast-moving storm of snow and wind
- 40 vehicles involved in the largest multiple-vehicle collision in recent Snoqualmie Pass history
- WSDOT IRT crews and WSP troopers worked for more than six hours in blustery conditions
- Media outreach to communicate real-time conditions and WSDOT action



06-07 WSDOT Emergency Operations Center Activations